

Listing of Claims

1. (Previously presented) An interconnect for testing a semiconductor component having a bumped contact comprising:

a substrate; and

a contact on the substrate configured to electrically engage the bumped contact, the contact comprising a recess in the substrate having a size approximately equal to that of the bumped contact, and a plurality of flexible metal leads cantilevered over the recess configured to support the bumped contact within the recess and to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped contact, each metal lead comprising an outer layer selected to provide a non-bonding surface for the bumped contact.

2. (Previously presented) An interconnect for testing a semiconductor component having a bumped contact comprising:

a substrate; and

a contact on the substrate configured to electrically engage the bumped contact, the contact comprising a recess in the substrate having a size approximately equal to that of the bumped contact, a plurality of flexible leads cantilevered over the recess configured to support the bumped contact within the recess and to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped contact, each lead comprising a conductive polymer outer layer.

Claims 3-4 (Withdrawn)

5. (Previously presented) The interconnect of claim 2 further comprising a conductive via in the substrate in electrical communication with the leads.

6. (Previously presented) An interconnect for testing a semiconductor component having a bumped contact comprising:

a substrate;

a recess in the substrate; and

a plurality of flexible metal leads on the substrate cantilevered over the recess configured to electrically engage the bumped contact and to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped contact, each metal lead having a cantilever length, a width, a thickness and a modulus of elasticity selected to provide a desired spring constant, and a shape that substantially matches a topography of the bumped contact, and an outer layer selected to provide a non-bonding surface for the bumped contact.

7. (Previously presented) The interconnect of claim 6 wherein each lead includes a projection configured to penetrate the bumped contact.

8. (Previously presented) An interconnect for testing a semiconductor component having a bumped contact comprising:

a substrate;

a recess in the substrate;

a plurality of flexible leads on the substrate cantilevered over the recess configured to electrically engage the bumped contact and to move within the recess by a distance sufficient to accommodate variations in a size,

a shape or a planarity of the bumped contact, each lead comprising an outer layer comprising a conductive polymer.

9. (Previously presented) The interconnect of claim 8 wherein the conductive polymer comprises a material selected from the group consisting of a carbon film and a metal filled silicone.

10. (Previously presented) The interconnect of claim 9 further comprising a contact on the substrate in electrical communication with the leads.

11. (Previously presented) The interconnect of claim 8 wherein the recess has four sides and the plurality of leads comprise four leads on the four sides.

12. (Previously presented) An interconnect for testing a semiconductor component having a bumped contact comprising:

a substrate;
a recess in the substrate;
a plurality of leads on the substrate cantilevered over the recess and configured to move and to electrically engage the bumped contact within the recess, each lead comprising a conductive polymer outer layer; and
a segment on the substrate electrically connecting the leads.

Claims 13-16 (Withdrawn)

17. (Previously presented) The interconnect of claim 12 the conductive polymer comprises a material selected from the group consisting of carbon and silicone.

18. (Previously presented) The interconnect of claim 12 further comprising a conductive via in the substrate in electrical communication with the leads.
segment.

19-24. (Withdrawn)

25. (Previously presented) A system for testing a semiconductor component having a bumped contact comprising:
 a carrier for retaining the semiconductor component;
 an interconnect on the carrier comprising a substrate, a recess in the substrate having a size approximately equal to that of the bumped contact, a plurality of leads cantilevered over the recess configured to electrically engage the bumped contact and to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped contact, each lead comprising an outer layer selected to provide a non-bonding surface for the bumped contact; and
 a test circuitry in electrical communication with the leads configured to apply test signals to the component.

26. (Previously presented) The system of claim 25 wherein each lead has a radius of curvature substantially equal to a radius of the bumped contact.

27. (Previously presented) The system of claim 25 further comprising a conductive via in the substrate in electrical communication with the segment.

28-30. (Withdrawn)

31. (Previously presented) A system for testing a semiconductor component having a bumped contact comprising:
 a testing apparatus;

an interconnect on the testing apparatus comprising:

a substrate;

a recess in the substrate having a size approximately equal to that of the bumped contact;

a plurality of leads on the substrate configured to electrically engage the bumped contact, each lead cantilevered over the recess and configured to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped contact, each lead comprising a conductive polymer outer layer; and

a test circuitry in electrical communication with the connecting segment.

32. (Previously presented) The system of claim 31 wherein the conductive polymer comprises a material selected from the group consisting of carbon and silicone.

33-48. (Withdrawn)